

SECTION III—REMARKS

This amendment is submitted in response to the final Office Action mailed February 25, 2005. Claim 16 is amended herein, and claims 1-4, 7, 16-19 and 22 remain pending in the application. Applicants respectfully request reconsideration of the application and allowance of all pending claims in view of the above amendments and the following remarks.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 16 and 18-19 as anticipated under 35 U.S.C. § 102(b) by Japanese Patent No. JP09080246 to Shinobu (“Shinobu”). Applicants respectfully traverse the Examiner’s rejections. A claim is anticipated only if each and every element, as set forth in the claim, is found in a single prior-art reference. MPEP § 2131; *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). As explained below, Shinobu cannot anticipate these claims because it does not disclose every element and limitation recited therein.

Claim 16, as amended, recites a device combination including a spacing made of a first cladding material and formed by an etch process to remove portions of the first cladding material from core regions adjacent to the spacing, a core material filled into the core regions subsequent to removal of portions of the first cladding material from the core regions “wherein excess core material over the core regions and the spacing is removed through a chemical-mechanical process,” and a layer made of a second cladding material and formed over the core material and over the first cladding material, including over the spacing. The Examiner concedes that Shinobu does not disclose the use of chemical-mechanical process, and therefore Shinobu cannot anticipate the claim. Moreover, by analogy to the discussion below for claim 16, Applicants submit that Shinobu also cannot obviate this claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 18-19, if an independent claim is allowable, then any claim depending therefrom is also allowable. *See generally* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 16 is in condition for allowance. Applicant therefore respectfully submits that claims 18-19 are allowable by virtue of their

dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicant therefore respectfully requests withdrawal of the rejections and allowance of these claims.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1, 2-4, 7, 17 and 22 under 35 U.S.C. § 103(a) as obvious in view of, and therefore unpatentable over, Shinobu. Applicant respectfully traverses the Examiner's rejections. To establish a *prima facie* case of obviousness, three criteria must be met: (1) the prior art references must teach or suggest all the claim limitations; (2) some suggestion or motivation to combine the references must be found in the prior art; and (3) there must be a reasonable expectation of success. MPEP § 2143. As explained below, the Examiner has not established a *prima facie* case of obviousness because criterion (2) has not been met.

Claim 1 recites a method combination including forming a cladding material over a substrate, lithographically patterning and etching the cladding material to obtain core regions and a spacing between the core regions that is made of the cladding material, filling the core regions with a core material, "using a chemical-mechanical process to remove excess core material formed over the core regions and over the cladding material," and forming another cladding material over the core regions and over the spacing. The Examiner concedes that Shinobu does not specifically disclose the use of chemical-mechanical processes, but alleges that chemical-mechanical processes are notoriously well known and that it would have been obvious to apply chemical-mechanical processes to remove the core material in Shinobu.

Applicants respectfully disagree. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. MPEP § 2143.01; *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Not only does Shinobu not specifically disclose the use of chemical-mechanical processes to remove the core material 17, but it actually teaches away from using chemical-mechanical processes. This is apparent upon careful examination of figures 3(b) and 3(c) of Shinobu. Had chemical-mechanical processes been used to remove the core material 17 in Figure 3(b) until only the grooves 16 had core

material in them, such processes would necessarily have removed the mask layer 15 as well. But Figure 3(c) shows that this is not the case: the core layer 17 was removed from the area above the core regions and the spacing, but the mask layer 15 was not. Thus, because it teaches that the mask layer 15 should be preserved while the excess core material 17 is eliminated, Shinobu teaches that the core layer 17 must be removed by means other than chemical-mechanical processes, such as etching. That Shinobu teaches the use of etching to remove the core layer instead of chemical-mechanical processes is further supported in the computer translation of Shinobu's claim 3 supplied by the Examiner: "Similarly, after etching and removing the excessive core film according to a dry etching process . . ." Applicants thus submit that even if the Examiner's argument that chemical-mechanical processes are well known is true, Shinobu teaches away from "using a chemical-mechanical process to remove excess core material formed over the core regions and over the cladding material" and therefore cannot obviate the claim. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 2-4 and 7, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 1 is in condition for allowance. Applicants therefore respectfully submit that claims 2-4 and 7 are allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Regarding claims 17 and 22, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 16 is in condition for allowance. Applicants therefore respectfully submit that claims 17 and 22 are allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Conclusion

Given the above amendments and accompanying remarks, all claims pending in the application are in condition for allowance. If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

Charge Deposit Account

Please charge our Deposit Account No. 02-2666 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

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Date: 4-21-05

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Enclosures: Amendment transmittal, in duplicate